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ABSTRACT

The lack of systematic, national data on the priority problems being experienced in the field operation of vocational education programs has been a barrier to the design of effective strategies for program improvement. The major purpose of this study was to provide a preliminary assessment of the field operation needs of vocational education. From a list of more than 6,000 nominations, an instrument designed to gather priority ratings for forty-eight needs was developed. The instrument was administered to local and state vocational education personnel. Findings indicate the following conclusions: (1) highest priority needs included improvements in collaboration with key segments of the employment community in communicating the benefits of vocational education and the relevance of curricula to job requirements; (2) high priority needs have an "external" orientation; (3) the major differences among groups concerning priorities were between state level and local level personnel; (4) while respondents agreed with priorities in the 1976 education amendments, they appear to have assigned lower priority to problems such as equal opportunity enrollment and sex sterotyping; and (5) six fundamental considerations appear (for example, data-based decision-making and community interaction), to underlie the respondents' priority decisions. (The survey instrument is appended. (LRA)

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National Assessment of Vocational Education Needs[1]

Edward J. Morrison[2]

The lack of systematic, national data on the priority problems and needs being experienced in the field operation of vocational education programs has been a persistent barrier to the design of effective strategies for program improvement and, especially, to the choice of research and development priorities. Those intent upon improvement of educational practice through programmatic research, development, training, dissemination, and evaluation have been operating without reasonable knowledge of their patient's complaints and symptoms.

The major purpose of this study was to provide a preliminary assessment, not then otherwise available, of the needs of vocational education as experienced in field operations.

Needs and Priorities

The strategy for the study followed from a discrepancy concept of need illustrated in Figure 1. By this concept, a need is a measurable discrepancy between what is (status) and what ought to be (goal). Needs thus defined may be viewed as goals not yet achieved or as problems which remain unresolved.

Mere knowledge of such needs is not sufficient information for action planning, no matter how well-defined or how convincingly justified the needs may be. Resources seldom are sufficient to permit serious attempts to reduce all needs at any time. So, choices usually are required among many needs because of resource limitations. Further, not all goals are equally important or desirable. Not all needs (goal discrepancies) are equally

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Figure 1

NEED= DISCREPANCY BETWEEN WHAT IS
AND WHAT OUGHT TO BE

PRIORITY?

intense or debilitating. Consequently, the design of plans to reduce the identified needs of (in this case) vocational education efficiently requires, among many other things, information about the relative importance (priority) of reducing each need. It is the development of this information about priorities which is referred to here as "needs assessment."

Two important methodological questions about this study, or any needs assessment are: how are needs identified? and how are priorities assigned to needs? The general strategy of this study was to identify needs from a rich variety of existing sources and to assess the importance of reducing those needs by a survey of informed participants in and observers of vocational education.

Methods and Procedures

Overview

A preliminary list of vocational education needs was assembled from a synthesis of more than 6,000 nominations by large city vocational educators and several hundred published recommendations of major advisory groups, government sources, professional associations, and research and evaluation efforts. This large preliminary list was reduced (to approximately 100) by elimination of duplicates, consolidation of like and associated items, and by application of preestablished criteria for problems deserving national attention.

An instrument, designed to gather priority ratings for the 48 needs finally selected was developed through a series of reviews, tryouts and revisions. A distinguished steering committee (see Appendix) representing major kinds of concerns for vocational education participated in this process, critically reviewed and recommended revisions to the study plan, to the survey design, and to the draft instruments.

Priorities were assigned to the 48 needs by respondents sampled from 10 significant vocational education populations chosen with the assistance of the steering committee. Respondents were drawn from all geographic regions; a wide range of experience; general as well as vocational education; state and local interests; post-secondary, secondary, and university education.

Simple follow-up procedures produced acceptable returns from each of the 10 respondent groups. Ratings were well distributed and adequately reliable.

For each respondent group, the average rating of each need was computed and needs were ranked according to the average priority assigned. Consensus ratings and rankings were obtained from averages of the equally-weighted group means.

Factor analysis of the correlations among needs was used to explore the possibility that priority ratings of the many particular needs might be attributable to a few general considerations underlying all of the individual judgments.

Identification of Needs

Standard library sources and search techniques were used to explore a large substantive and methodological literature for reports identifying needs of vocational education. The search encompassed not only books, periodicals, dissertations, reference volumes and other standard, published literature, but also the ERIC collections (Research in Education, Current Index to Journals in Education), the Abstracts of Instructional and Research Materials, and many special or irregular documents (e.g., project and conference reports; government agency reports; a variety of policy and planning documents; reports and papers of major advisory groups, pertinent federal legislation and regulations).

The literature search was structured in three ways. First, it was limited to approximately the most recent five years (i.e., 1970-1975) to identify reasonably current needs, including those durable needs which, if recognized earlier, remained unresolved.

Second, statements of needs, goals, problems, or priorities were favored for retention and further considerations as national issues to the extent that their resolution would:

- benefit larger numbers of learners;
- benefit several levels of education;
- benefit programs and learners in a variety of settings;
- benefit many states and regions;
- provide durable improvements rather than answers to passing troubles;
- be possible only with outside assistance; and
- reduce other important, related problems.

Finally, a simplified educational systems model (Morrison, 1972) was used to define a set of five logical categories within which needs (problems, goals, priorities) would be sought and into which the results of the searches would be sorted. The categories, briefly defined below, were pre-tested with a large number of problems and goals and found capable of classifying all items. The search categories were:

1. Educational program management and administration (goal setting, planning, policy, resource allocation, evaluation, communications).

2. Educational program personnel (selection, preparation, maintenance of those who staff the educational system, including teachers, counselors, others in contact with students, federal, state, and local administrators).

3. Educational program content (identification, selection, development, assessment of the content of programs - curriculum).

4. Educational program functions (instruction, guidance, counseling, placement, follow-up).

5. Learners (individual and group differences of educational significance whether associated with level, settings, or educational purpose).

As candidate statements were located by this search, each was recorded verbatim, referenced to its source, and entered into the appropriate category. The more than 600 statements selected in this manner then were examined, duplications and overlap were eliminated, similar and related statements were synthesized, and the survivors were rewritten in a standard format.

In addition to the needs identified by the general literature search three existing statements of vocational education needs were considered sufficiently important to be included among the candidates. One of these was the set of 30 priorities established most recently (for fiscal years 1975 and 1976) by the U.S. Office of Education for its vocational research and development programs. Such annual priorities determine the allocations of substantial federal resources to needs, and affect the research and development activities of all states and of many other research and development providers. They, thus, affect the technical development of vocational education promptly and directly and the state of practice eventually. In addition, these USOE priorities were the closest known approximation to an operational, federal statement of national needs in vocational education.

The second set of priority needs selected was the set of 21 identified by The Center for Vocational Education (1970) through systematic and comprehensive assessments of the state of knowledge and practice. These priorities were developed and used for several years to guide programmatic work in six substantive areas. Their importance to The Center and the relatively substantial rationales supporting them recommended these priority needs for inclusion among the list of candidates.

The third set selected was developed in a study of the needs of vocational education in the large cities of the United

States (Adams, 1976). Personal interviews and open-ended questionnaires were used to develop more than 6,000 statements of need from students, representatives of the manpower community, vocational educators, and administrators. A systematic process of analysis and synthesis was used to distill a set of 260 specific needs grouped under 30 major goals. The recency and grass-roots origins of these needs strongly recommended the inclusion of the 30 major goals among the candidates, as did the possibilities of combining some results from the two studies.

With these three sets of needs added to the items located in the general literature, the full list of candidate needs included the then current priorities of the federal vocational research and development program, persistent priorities of the major vocational research and development center, and the needs most recently nominated from the field by a variety of participants in vocational education.

The entire collection of needs was reviewed again to remove duplications resulting from the addition of the three special sets of needs. Surviving needs statements were evaluated by a panel of four judges against the selection criteria listed earlier. A statement was retained if at least three judges reported that it satisfied a majority of the criteria. A total of 101 needs resulted from this selection process.

Instrumentation

The final data collection instrument (see Appendix) was developed through a series of critical reviews, tryouts, and revisions.

Initial versions were reviewed by evaluation specialists and vocational educators of The Center staff. Directors of Research Coordinating Units and other state and local vocational research personnel, during their annual conference, responded to an abbreviated version, provided written comments about the instrument, and nominated some new needs for inclusion. A draft version of the instrument, requesting priority ratings for the 101 needs and certain other data, was attempted by each of the 17 members of the project steering committee who then discussed it in detail and provided substantial recommendations for revision.

Extensive revisions resulted from consistent recommendations from these reviews and tryouts. Many needs statements were rewritten to reduce complexity, to eliminate ambiguities, and to reduce the reading difficulty level. The number of needs statements was reduced from 101 to 48 to encourage reasonable return rates and to reduce complexity enough for reliable

differentiation among needs. Within these qualitative and quantitative constraints, preference for inclusion was given first to needs from the three major sources (Large Cities Needs Study, Center, USOE) described in the previous section. As possible, adjustments were made in selection and wording of individual items to enhance the representation of such other important sources as recent federal legislation and major items from the literature.

Populations and Samples

The important question of who should be asked to judge the priority of needs was considered in detail by the steering committee. After examining many alternatives, the following 10 populations were chosen as respondents to the needs survey instrument.

State Level:

State Directors of Vocational Education

State Directors of Community/Junior Colleges

Directors of State Research Coordinating Units in Vocational Education

Directors of State Vocational Instructional Materials Laboratories

Executive Secretaries of State Advisory Councils on Vocational Education

Local Level:

Vocational Education Teachers

Superintendents of K-12 School Districts

Directors of Area/Joint Vocational Schools

Presidents of Community/Junior Colleges

Vocational Teacher Educators

These populations were judged most important for an initial study because they are the groups actively engaged in public vocational education in its various aspects. They can be expected to have informed judgments about vocational education needs where they are and, therefore, must be counted among the credible sources of priority needs information. Further, since they must

be the implementers and adopters of innovations and new knowledge if programs are to change, their areas of need and readiness are of major importance to producers of knowledge, products and services intended to improve practice.

It was recognized that other populations also have a stake in vocational education, and that their judgments might differ from those of the selected populations. Thus, it was recognized that private vocational educators, federal-level participants, students, employers, specialists from other disciplines (e.g., sociology, manpower economics, political science), and major critics all could be surveyed profitable and should be included in future phases designed to complete a comprehensive assessment of vocational education needs. Within existing limited resources, it was judged most effective to survey first the selected professional populations whose data were considered essential to any assessment and the most useful information for an initial study.

Sampling Strategy. Samples of these 10 selected populations were chosen for survey within several general strategy considerations. Thus, a total sample of approximately 2,000 was elected as best within project resources after examination of survey costs and benefits from various arrangements of total sample size and the distribution of that total across populations. This strategy planned that all members of small populations would be surveyed. Larger populations would have sample sizes of approximately 250 and the two largest populations would have samples near 500.

A second strategy affecting sampling methods and sample sizes was to design each sample to provide the best report which could be constructed for its population within practical constraints and conditions. These differed among populations, especially with respect to population size and the availability of information needed for selecting samples and contacting respondents. Consequently, so far as possible, every state was included in the sample of each population and states were weighted equally in the sample. Similarly, it was planned that aggregations of results from several or all samples would give equal weight to all participating populations.

State-level Samples. Each state-level group consisted entirely of persons holding a particular position (role) in one on the 56 states (including Washington, D.C. and the territories). The total population in each case included no more than one individual per state. Some states did not have all positions established and some vacancies existed in established positions. However, current, accurate mailing lists of all of these groups were readily available to the project. Responses were sought

from all 242 incumbent members of the state-level groups.

Local Groups. Unlike the state-level groups, the five "local" groups varied widely in size, and each presented special problems in identifying members of the population and in selecting appropriate samples of respondents.

1. Directors of Area/Joint Vocational Schools.

The vocational schools included here are public, multi-jurisdictional institutions at secondary and post-secondary levels. Their names include such terms as joint-area, area, area-wide, joint, regional, county, and district to indicate their broader service and responsibility areas. The title "director" here includes all who are identified as institutional heads. They carry a variety of position titles including such as director, principal, supervisors, chief officer, and chief administrator. A sample of 267 directors of area/joint vocational schools was chosen which included all qualified individuals identified in the Technician Education Yearbook, 1975-1976 (Prakken, 1975) and all others who could be identified in a diligent search assisted by vocational education specialists at The Center and in state departments of education. The sample is a large, but perhaps not complete, portion of all area/joint vocational school directors.

2. Vocational Teacher Educators.

Persons included here are those whose primary responsibility is the preservice and inservice education of vocational teachers. These roles are performed by a large, but changing group of people under a great variety of titles in many locations for non-standard periods of time. No reasonably complete listing of vocational teacher educators could be located and it is doubtful that a defensibly complete and current list (or demonstrably representative sample) is possible. For this study, the sample of 245 persons was selected from the 1,440 members of the American Vocational Association who in Spring 1976 described themselves as vocational teacher educators. Five persons were selected at random from each state, except that all listed members were selected from those states with five or fewer members.

It cannot be argued confidently that these individuals are (or are not) fully representative of all vocational teacher educators. However, the sample is benefitted by this selection in other ways. Thus, by including only persons freely describing themselves as members of the population, the sample is likely to include fewer accidentally misclassified individuals. The teacher educators who join the American Vocational Association also have

given at least some evidence of professional interest and activity. They might, then also be thought to be promising sources of information about vocational education needs.

3. Vocational Teachers.

This population consists of those individuals engaged primarily in vocational teaching in eight vocational service areas recognized by the American Vocational Association, (agriculture, business and office, distribution, health, home ecomonics, industrial arts, technical, and trade and industry). The situation with respect to identification and sampling of members of the population was much the same as for vocational teacher educators, though exaggerated by the much larger numbers and greater diversity among the teachers. Consequently, the sample of vocational teachers was selected from the 36,499 members of the American Vocational Association in Spring 1976 who described themselves as vocational teachers. This membership was the largest know affiliation of vocational teachers.

In accordance with the general strategy for sample sizes with large groups, 487 teachers were selected as follows. Ten persons were sought from each state to include one chosen randomly from each vocational service area and two chosen randomly at-large. Some states lacked a member from one or more service areas and, consequently, contributed less than ten representatives to the total sample.

4. Presidents of Community/Junior Colleges.

This group includes the chief administrative officers (variously titled: president, superintendent, director, etc.) of publicly operated two-year, post-secondary institutions. A total of 1,014 qualified institutions and their presidents (as here defined) were identified in the 1976 Community Junior and Technical College Directory (Drake, 1976), an authoritative report of the American Association of Community and Junior Colleges.

Consistent with the strategy for sample sizes, 265 presidents were selected from the directory population of 1,014 by choosing at random from each state one-fourth of its community and junior colleges. At least one president was included for each state with any qualified institution.

5. Superintendents of K-12 Public School Districts.

This group, as the title declares, includes all those who superintend public school districts that provide education for

students from kindergarten through secondary levels (twelfth year). Superintendents of such districts have broad responsibilities to a variety of constituents. They must attend to the vocational development and preparation of students as one aspect of the integrated, comprehensive educational enterprise. They are in position, therefore, to judge vocational education needs of many kinds against a rich context of related information.

A total of 16,840 such school districts were identified in the Education Directory, 1973-74, Public School Systems (Williams and Warf, 1974). As prescribed by the plan for sample sizes, 485 superintendents were chosen from their population by selecting 10 at random from each state, except that all qualified superintendents were included from any state having 10 or fewer qualified school districts.

Table 1 summarizes the data on populations and samples and shows that all members were included for survey from six of the populations (all five state-level groups plus the directors of area/joint vocational schools). Substantial percentages were included from teacher educators (16.9%) and presidents of community/junior colleges (26.1%). Only for the two very large populations did resources require sampling at low levels.

Data Collection

Instruments were individually addressed and mailed to all samples during the approximately one-month period ending the last week of July 1976. Each instrument was accompanied by a letter explaining the project and requesting cooperation and by a prepaid envelope for returning the completed questionnaire. A code number on each instrument identified the individual respondent and the individual's population. Thus, it was possible to record returns when received and to identify non-respondents by reference to a separately-filed, confidential roster. All non-respondents in state-level samples were sent reminder cards one month after the instrument mailing. They also were reminded by a special notice (in the Summer 1976 issue of the AVA Membergram) which was designed primarily as a reminder and follow-up for the much larger local-level samples. Data collection was closed the first week in September.

Data collection and follow-up activities were confined to a time period chosen to ensure that field judgments would be gathered before they could be influenced significantly by the character and priorities of the new federal vocational education legislation just then being formulated. Response rates of some samples might have been increased by scheduling data collection or follow-up efforts after fall school openings, but data thus

Table 1

Populations and Samples

Population	Estimated Population	Sample	
		Number	Percentage of Population
Local:			
Vocational Teachers (AVA)	36,500	487	1.3
Vocational Teacher Educators (AVA)	1,440	244	16.9
Directors, Area/Joint Vocational Schools	267	267	100.0
Superintendents, K-12 Districts	16,840	485	2.9
Presidents, Community/Junior Colleges	1,014	265	26.1
Total Local	56,061	1,748	3.1
State:			
Executive Secretaries, State Advisory Councils	56	56	100.0
Directors, State Instructional Materials Laboratories	31	31	100.0
Directors, Research Coordinating Units	52	52	100.0
State Directors, Community/Junior Colleges	48	48	100.0
State Directors of Vocational Education	55	55	100.0
Total State	242	242	100.0

collected would have been suspect with respect to the influence of the new legislation and these options were rejected.

Data Analysis

To provide the priority ratings of vocational education needs, which was the basic objective of the study, summary statistics (e.g., means, variances, frequencies) were computed separately for each respondent group on the priority ratings assigned by all responding members to each vocational education need. The 48 rated needs then were ranked in each respondent group according to their mean ratings. Consensus ranking were developed for all five local groups combined, for all five state groups combined, and for all ten groups. These aggregates gave equal weight to each included group by ranking the needs according to the sum of ranks assigned by the participating groups.

The reliability (consistency) of ratings and rankings from one sample of respondents to another sample similarly selected from the same population was estimated for each of the 10 respondent groups and for all respondent groups combined. Thus, each sample of respondents (e.g., teachers) was divided randomly into halves. The mean rating of each need then was computed for each half sample. The product-moment correlation between the two halves, based on the means assigned by each to the 48 needs, then was computed as an estimate of sample-to-sample reliability of the pattern of mean ratings. This estimate tends to be conservative because the two sub-samples entering each correlation (a) are smaller by half than the full sample for which the estimate is made and (b) were selected randomly rather than by matching on known characteristics of the full samples (e.g., geographical distribution, or vocational teaching specialty). The values thus computed may be adjusted by the Spearman-Brown formula (Guilford, 1954) to correct for the small sample effect mentioned above.

The analysis described thus far provided the priorities sought for the list of vocational education needs. However, several additional analyses were conducted to assist in understanding and interpreting the basic data on priorities.

Factor analysis was used to explore the possibility that individuals ratings of the many particular vocational education needs might be attributable to a few important considerations or factors underlying all of the individual judgments. For this analysis, a sample of 330 cases was selected from the total of 954 respondents to include, as nearly as possible, an equal number of cases from each respondent group. First, 35 cases were selected at random from each of nine groups and all 23 cases available were chosen from the tenth group. (Directors,

Instructional Materials Labs). Any chosen case with data missing for more than five items (approximately 10% of the 48 needs to be rated) was removed and replaced, if possible, with an acceptable case randomly chosen from the same group. Product-moment correlations were computed for all pairs of the 48 needs using all available cases in each pairing. The communality for each need was estimated initially as the squared multiple correlation of that need with all 47 other needs. The 48 x 48 matrix of correlations, with estimated communalities as diagonal entries, then was factored by the principal components method. With the scree test (Cattell, 1966) and interpretability as criteria for the number of factors, both orthogonal (varimax) and oblique (binormamin) rotations were examined in selecting the optimum solution.

Findings

The sections which follow first describe the respondents to the needs survey and the distributions and reliabilities of the priority ratings they provided. The priorities assigned by consensus of all respondents and by state and local groups then are presented and compared with each other and with priority judgments from other sources.

Respondents

A total of 954 respondents provided usable returns distributed among the ten selected populations as shown in Table 2.

Part III of the survey instrument asked how many years the respondent had been in the present role and for how many years associated with vocational education. Table 3 summarizes the responses given by all who answered these questions.

Table 3. Distribution (Percentages) of Respondents by Years of Experience

Number of Years	In Present Role			Associated with Vocational Education		
	All	Local	State	All	Local	State
1 - 7	69	66	87	23	24	18
8 -14	22	24	12	27	29	22
15 -21	5	7	1	25	24	29
22 -28	2	2	0	15	15	17
29 -49	2	2	0	10	8	14
Range (in Years)	1-42	1-42	1-20	1-29	1-49	2-48
Median Years	4.58	4.85	2.40	13.98	13.22	15.42
No. Responding	911	740	171	913	738	175

Respondents from both local and state-level groups are distributed rather evenly across a wide range of years of experience in (association with) vocational education. The length of such experience (median: 13.98 years) is sufficiently high to encourage an expectation of informed judgments by these respondents about vocational education even though their tenure in present roles is much briefer.

Table 2

POPULATIONS, SAMPLES, AND RESPONSE RATES

Population	Estimated Population Size	Sample		Usable Returns	
		Number	Percent of Population	Number	Percent of Sample
LOCAL					
Vocational Teachers (AVA)	36,500	487	1	174	36
Vocational Teacher Educators (AVA)	1,440	244	17	125	51
Directors, Area/Joint Vocational Schools	267	267	100	154	58
Superintendents, K-12 Districts	16,840	485	3	177	36
Presidents, Community/Junior Colleges	1,014	265	26	138	52
Total Local	56,061	1,748	3	768	44
STATE					
Executive Secretaries, State Advisory Councils	56	56	100	40	71
Directors, State Instructional Materials Laboratories	31	31	100	23	74
Directors, Research Coordinating Units	52	52	100	40	77
State Directors, Community/ Junior Colleges	48	48	100	36	75
State Directors, Vocational Education	55	55	100	47	85
Total State	242	242	100	186	77

In summary, the data for this study were provided by 954 respondents representing ten important populations, all geographical regions of the country, all vocational service areas, a wide range of years of experience in vocational education, and sufficient experience, on the average, to make informed judgments about vocational education needs.

Distribution of Ratings

Figure 2 shows that all five priority levels were used in rating the vocational needs, but that higher ratings were used more frequently than low ratings. Thus, ratings of 4 and 5 were used 3.7 times as often as ratings of 1 and 2, and the mean of all individual ratings (3.557) is above the midpoint (3) of the 5-point scale. As expected, the distribution of mean ratings shown in Figure 3 has a narrower range (2.445-4.575), and is more nearly symmetric about its mean (3.525) than is the distribution of individual ratings. Like individual ratings, however, most mean ratings (90 percent) also are higher than the scale midpoint.

The preponderance of higher ratings might be expected because of the highly selective process used to identify needs for rating. Only needs considered especially important were included for rating. So, other informed judges also might be expected to assign high priority to such needs. The range and variance of individual and mean ratings, seen in Figure 2 and 3 indicate that respondents nevertheless did make a useful number of priority distinctions among the needs.

Reliability of Ratings and Rankings

Primary interest in this study is in the priorities assigned by various groups of respondents to the set of 48 vocational education needs. Consequently, the most pertinent reliability indices are estimates of the stability of mean ratings and rankings of needs from one sample to another sample from the same population of respondents. Table 4 presents such reliability estimates for each respondent group and for all respondents together. These estimates indicate that the means and rankings computed for most respondent groups are highly stable from one sample to another sample similarly selected from the same population. This finding is important especially in view of the earlier observation that mean ratings are distributed over less than the full range of the 5-point scale

Figure 2

DISTRIBUTION OF PRIORITY RATINGS ASSIGNED BY 954 RESPONDENTS TO 48 NEEDS

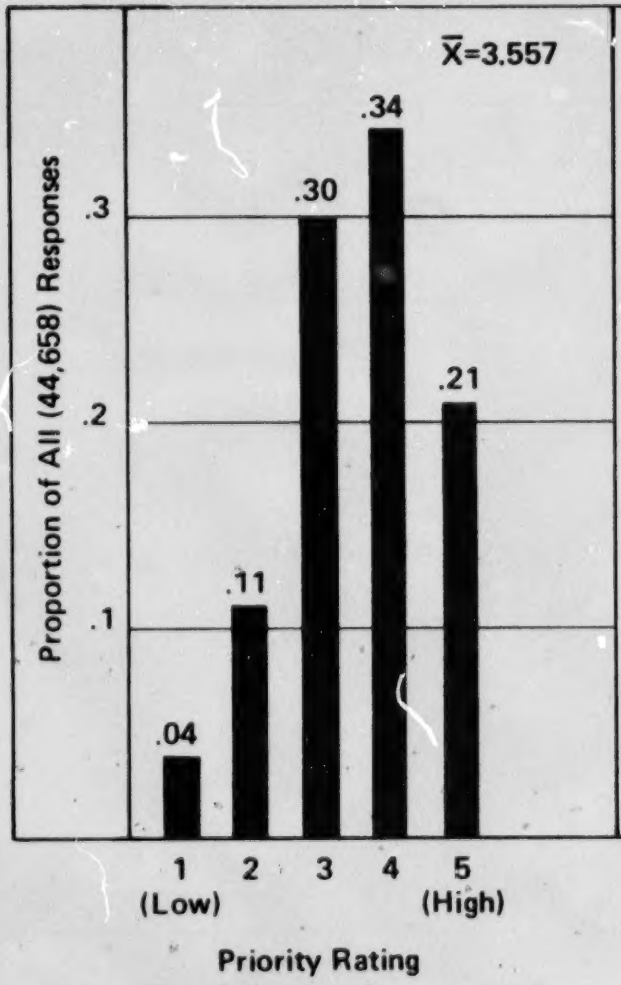

Figure 3

DISTRIBUTION OF MEAN PRIORITY RATINGS ASSIGNED BY 10 GROUPS OF RESPONDENTS TO 48 NEEDS

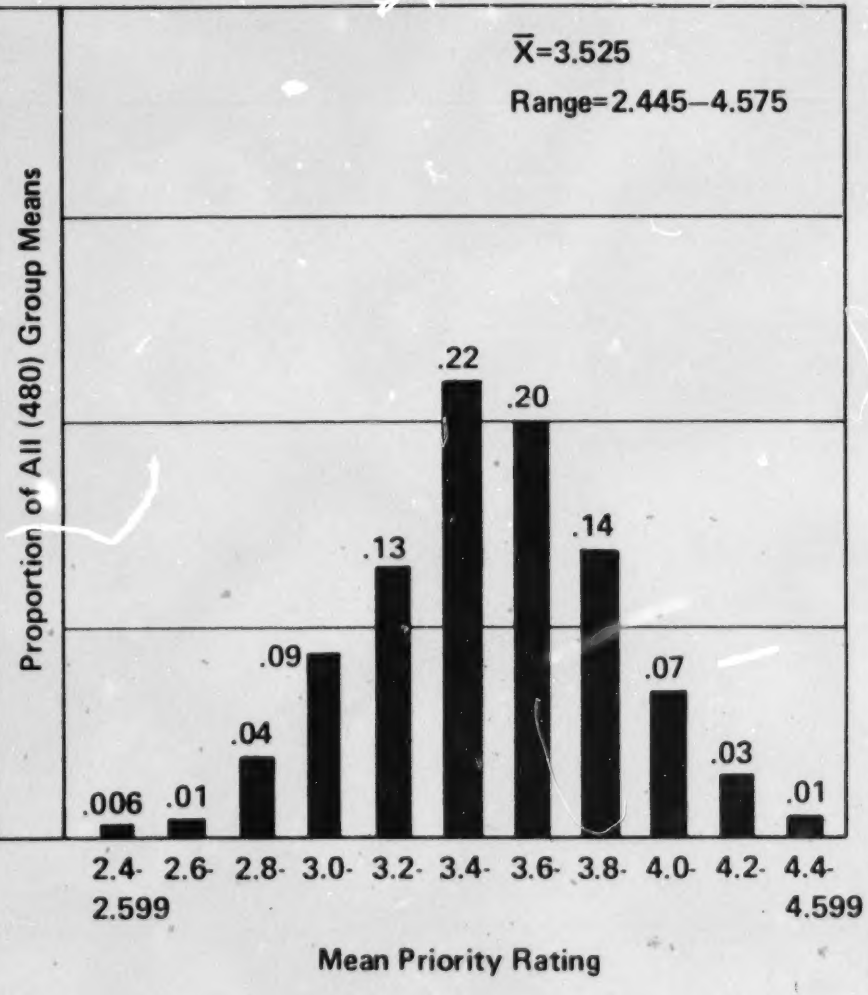

Table 4

RELIABILITY OF MEAN RATINGS AND RANKINGS FOR ALL RESPONDENT GROUPS*

Respondent Group	Mean Ratings	Rankings
Teachers	.967	.974
Teacher Educators	.934	.946
Directors, Area/Joint Vocational Schools	.964	.958
Presidents, Community/Junior Colleges	.947	.940
Superintendents	.937	.951
Executive Secretaries, State Advisory Councils	.879	.886
Directors, State Instructional Materials Laboratories	.686	.642
Directors, Research Coordinating Units	.784	.778
State Directors, Community/Junior Colleges	.850	.853
State Directors, Vocational Education	.921	.899
All Respondents	.991	.987

*Product-moment correlation between random halves of the respondent group. Based on the means and ranks assigned by each half to the 48 vocational education needs. Corrected for double the number of raters in the half-samples.

and the fact that differences between mean ratings for some pairs of needs are numerically small. In spite of these distributional limitations, the evidence is that the ordering of priorities by each respondent group is very stable and largely independent of the particular choice of individuals representing the group.

Priority Needs: Consensus Judgments

The ten priority ranks assigned by respondent groups were summed for each need. The 48 needs then were listed in increasing order of those sums (order of decreasing priority). The position (rank) of each need in this list is influenced equally by all respondent groups and, in this sense, is a consensus of all ten group judgments. Table 5 lists the 16 highest priority needs thus identified showing for each need its priority rank among all needs and the average of its ten mean ratings by the respondent groups. The same consensus information also is provided on each need for the five local groups and for the five state-level groups. Tables 6 and 7 present the same information about the 16 middle-ranked needs and the 16 lowest-ranked needs respectively.

In each table, needs are listed from highest to lowest priority according to consensus of the 10 group ranks. A few minor changes in the sequence within each table would result if the list were by decreasing value of the average of group ratings. However, the priority position of each need in the tables is approximately the same, without important interpretive difference, whether determined by consensus of ranks or of mean ratings.

The three needs ranked highest overall (numbers 4, 3, 22 in Table 5) also were ranked in the top one-third of all needs by every respondent group and were the needs cited more frequently overall as being among the five most urgently requiring attention. Only one of these three (number 22) was ranked below 10 by any group (RCU Directors). This consistency across rater groups on these three needs also is apparent in the ranks and average ratings recorded in Table 5 for local and state groups.

The list of 16 highest priority needs in Table 5 includes the 10 needs ranked highest by local groups' consensus and nine of the 10 ranked highest by state groups. Fifteen of the 16 highest priority needs (all except number 13) also were ranked in the highest-priority third by at least half of the 10 respondent groups. In addition, Table 5 includes 14 of the 16 needs cited most frequently as most urgently requiring attention.

The priorities established by consensus of all groups, as reported in Tables 5, 6, and 7 do display some notable patterns.

Table 5 Highest Priority Needs According to Consensus of All Respondent Groups: Priority Rank and Average of Mean Ratings for All Groups, for Local Groups, and for State Groups

All Groups			Local Groups		State Groups	
Priority Rank	Average Group Rating	Need	Priority Rank	Average Group Rating	Priority Rank	Average Group Rating
1	4.12	4. Increase collaboration with key segments of the employment community (e.g., business, industry, organized labor, government).	2	4.06	2	4.19
2	4.08	3. Better communicate the benefits and content of vocational education to parents, students, employers, and general educators.	1	4.15	5	4.02
3	4.07	22. Ensure the relevance of vocational curricula to current job opportunities and practices through effective methods for identifying, selecting, and updating content.	3	3.97	4	4.19
4	3.98	8. Evaluate vocational education more effectively (e.g., impact, goal achievement, student outcomes, needs, cost-benefit).	13.5	3.72	1	4.23
5	3.92	40a. Improve and expand vocational education to meet the needs of adults.	6.5	3.89	8	3.95
6	3.94	34. Provide comprehensive vocational guidance, counseling, placement, and follow-up services to all who need them.	9	3.79	6	4.08
7	3.85	24. Provide opportunities for all vocational students to acquire the basic skills (e.g., reading, communication, math) required for coursework and jobs.	5	3.93	13	3.76
8	3.89	7. Provide improved data for planning and evaluating vocational programs.	22	3.61	3	4.16
9	3.82	14. Improve opportunities for inservice vocational personnel to renew and expand their competencies.	6.5	3.89	15	3.75
10	3.84	37. Coordinate comprehensive guidance, counseling, placement, and follow-up services with business, industry, service agencies, and manpower information systems.	19	3.66	7	4.03
11	3.79	40g. Improve and expand vocational education to meet the needs of handicapped individuals.	10	3.78	12	3.80
12	3.80	9. Provide tools and techniques for improved planning, management, and evaluation of vocational education programs.	18	3.65	9	3.95
13	3.77	25. Individualize teaching and learning (e.g., teaching techniques, management practices, and curriculum) to meet the needs of different kinds of learners.	13.5	3.71	11	3.82
14	3.75	13. Ensure that preservice preparation of vocational personnel meets present and emerging competency needs.	8	3.82	21	3.63
15	3.76	11. Finance vocational education programs using local, state, and federal sources effectively.	4	3.94	28	3.57
16	3.74	20. Improve counselor education programs.	12	3.73	18	3.49

Table 6 Medium Priority Needs According to Consensus of All Respondent Groups: Priority Rank and Average of Mean Ratings for All Groups, for Local Groups, and for State Groups

All Groups			Local Groups		State Groups	
Priority Rank	Average Group Rating	Need	Priority Rank	Average Group Rating	Priority Rank	Average Group Rating
17	3.73	23. Develop curricula which prepare students for clusters of up-to-date occupations.	15	3.70	17	3.75
18	3.71	40h. Improve and expand vocational education to meet the needs of disadvantaged individuals.	17	3.67	16	3.74
19	3.74	27. Increase the flexibility of vocational programs (e.g., flexible scheduling, alternative instructional strategies, performance-based certification, open entry and exit).	26	3.58	10	3.89
20	3.67	30. Expand opportunities for all students to explore and practice job skills in both community and school settings.	16	3.68	23	3.66
21	3.66	31. Develop alternative methods for assisting students in transition from school to work (e.g., job seeking skills, coping with work entry and adjustment, work habits, attitudes).	21	3.65	22	3.67
22	3.64	5. Increase cooperation with related educational areas (e.g., industrial arts, career education, pre-vocational education, academic subjects).	11	3.77	32	3.52
23	3.63	40c. Improve and expand vocational education to meet the needs of individuals who are in sparsely populated rural areas	23	3.58	19.5	3.68
24	3.63	36. Improve and expand follow-up studies of former students and their employers.	30	3.49	14	3.76
25	3.61	2. Implement proven innovations when outside funds no longer are available.	24.5	3.57	24	3.65
26.5	3.60	28. Improve the curriculum materials used by vocational students and educators.	29	3.53	25	3.68
26.5	3.57	32.	20	3.65	34	3.49
28	3.48	12. Prepare an adequate supply of qualified vocational personnel for each leadership role.	24.5	3.57	35	3.39
29	3.48	10. Develop practical procedures for measuring the relative cost-effectiveness of program alternatives.	38	3.27	19.5	3.69
30	3.47	17. Increase the participation of vocational teachers in supporting activities (e.g., curriculum development, community realtions, job placement, follow-up, professional development).	27	3.55	38	3.39
31	3.47	6. Increase cooperation among the various levels and departments of vocational education.	31	3.40	29	3.53
32	3.47	35. Place vocational students in occupations related to their education through coordinated efforts at all levels (classroom, school, district, state, federal).	28	3.54	39	3.40

Table 7 Lowest Priority Needs According to Consensus of All Respondent Groups: Priority Rank and Average of Mean Ratings for All Groups, for Local Groups, and for State Groups

All Groups			Local Groups		State Groups	
Priority Rank	Average Group Rating	Need	Priority Rank	Average Group Rating	Priority Rank	Average Group Rating
33	3.46	1. Incorporate new ideas more rapidly in vocational education.	32	3.42	31	3.50
34	3.44	19. Identify and improve the special skills needed by vocational personnel to work with special groups (e.g., disadvantaged, bilingual, incarcerated, handicapped, minorities).	34	3.39	30	3.49
35	3.42	21. Improve the effectiveness with which on-site agents (e.g., curriculum coordinators, supervisors, teachers) bring about the adoption of valid innovations.	39	3.28	27	3.55
36	3.43	26. Ensure efficient learning of vocational curricula through systematic methods (e.g., sequencing, allocating time to, and evaluating effects of instruction).	35.5	3.38	33	3.47
37	3.39	40b. Improve and expand vocational education to meet the needs of inner-city residents.	42	3.18	26	3.61
38	3.39	15. Improve the methods for evaluation of vocational personnel.	33	3.41	37	3.36
39	3.27	40d. Improve and expand vocational education to meet the needs of minority group members.	41	3.20	40	3.34
40	3.27	39. Expand post-secondary vocational education through applied studies and development of materials, programs, and methods.	35.5	3.38	44	3.15
41	3.27	38. Develop a system for reliable identification of occupationally disadvantaged persons and for prescription of effective educational programs for them.	40	3.25	41	3.29
42	3.20	40f. Improve and expand vocational education to meet the needs of individuals who are in correctional institutions.	46	3.02	36	3.37
43	3.15	40e. Improve and expand vocational education to meet the needs of individuals who are limited in English-speaking ability	45	3.05	42	3.25
44	2.98	33. Develop ways to reduce and cope with disruptive or dangerous activities (e.g., dlinquency, vandalism, discipline problems).	37	3.15	48	2.81
45	3.13	16. Develop organizational and staffing patterns which optimize the effectiveness of personnel and resources.	44	3.18	46	3.09
46	3.12	18. Provide personnel to vocational program from specialized areas (e.g., job placement, special education, remedial basic skills, teaching aids, psychology, social work, nursing, staff development).	43	3.18	47	3.06
47	3.13	29. Enroll students into all vocational programs on an equal opportunity basis.	47	3.04	43	3.22
48	3.01	40i. Improve and expand vocational education to meet the needs of migrant individuals.	48	2.92	45	3.09

The highest priority needs (Table 5) have a striking "external" orientation in that many of them concern interaction with and response to the community and to the changing context of vocational education. Three (needs 4, 3, 37) call directly for enhanced collaboration, communication, and coordination with important community elements. Two (needs 22, 24) address the need for ensuring that what is learned also is relevant to current job opportunities. Comprehensive guidance services (needs 34, 37), including placement and follow-up to bridge the transition to work, are among the highest priorities. So, too, is vocational education designed to meet the needs of adults and handicapped persons (40a, 40g): a growing area of service. Several needs (8, 7, 9) for improved planning and evaluation also are prerequisites to improved accountability.

By contrast, the lowest-priority needs (Table 7) seem to be concerned with educational system operations and with socially defined special needs groups. Thus, five needs (19, 21, 15, 16, 18) in this group concern personnel management and special staff skills. Four needs (1, 26, 39, 33) of relatively low priority cite operational problems: speedier adoption of new ideas, more efficient instruction, expansion of post-secondary programs, and reducing disruptive and dangerous activity. Six needs (40b, 40d, 38, 40f, 40e, 29) concern service to learners (inner-city residents, minority groups, and individuals who are occupationally disadvantaged, incarcerated, migrant, or have limited English-speaking ability) whose special needs derive from social-cultural-economic conditions.

Medium priority needs seem to include some examples resembling the higher-rated needs and some more like the lower-priority group. Thus, the external orientation found characteristic of higher priority needs is seen in needs 23, 31, and 35 for example. The lower priority concern with system operations is illustrated by needs 5, 2, 6.

In making these and similar observations, it is important to remember that the priorities summarized in these tables are statements about the importance of reducing a need, relative to other needs. They are statements about the importance of action; they are not safely interpreted as statements about the importance of goals. For example, respondents considered it more important to increase collaboration with key segments of the employment community (rank 1) than to increase cooperation with related educational areas (rank 22). This does not imply, however, that respondents considered cooperation with related educational areas to be unimportant. The same is true for any other item of relatively low priority.

Group Comparisons

Tables 5, 6, and 7 and examination of the detailed group by group data show substantial agreement among respondent groups about the priorities of many vocational needs. Data in Tables 5, 6, 7 show that the consensus of state groups was in agreement with the overall priority category assignment (high, medium, low) of 34 needs (71 percent), and that the local groups agreed with the overall priority category for 40 needs (83 percent).

Some notable differences between groups do exist, however. With respect to the major priority category assignments, state and local groups agreed exactly on only 28 needs (58 percent). The largest of these disagreements on priority are shown in Table 8. State-level respondents gave higher priority than local groups to needs for data-based decision-making (needs 8, 7, 36, 10) and to coordination of guidance services with elements of the employment community. Local-level respondents gave higher priority than state groups to needs closer to the classroom: teachers (needs 12, 13), special students (need 32), cooperation among related educational areas (need 5), and financing (need 11). Such differences in emphasis are consistent with the different roles of those with state-level responsibility for general management and those engaged in day-to-day delivery of educational services.

Priorities Related to Legislative Emphases

Table 9 identifies six areas of major emphasis in the Education Amendments of 1976 and shows the priorities assigned in this study to needs most closely related to each emphasis.

Overall, it appears that educators in the field, before the new legislation was completed or available, judged the needs of vocational education much as did the writers of the legislation. Two major exceptions are noted, however.

The major exception appears to be with respect to sex bias and sex stereotyping. The present survey did not ask specifically about sex bias; it enquired only about equal opportunity for all students to enroll in all programs. This need (item 29) ranked next to last among all 48 needs. However, it might be expected to have much higher priority if sex bias and stereotyping were considered an urgent problem. A study by Adams (1976) of vocational education needs in large cities found a similar priority for the same item and a low priority for sex bias and stereotyping stated as a specific need.

The other notable difference between the results of this study and the legislative emphasis is with respect to special

Table 8

NEEDS ASSIGNED DIFFERENT PRIORITIES BY STATE AND LOCAL GROUPS

PRIORITY			NEED	
STATE	LOCAL	CONSENSUS		
1	13.5	4	8	More effective evaluation
3	22	8	7	Improved data for planning and evaluation
7	19	10	37	Comprehensive guidance services coordinated with employment community
14	30	24	36	Improved follow-up studies
19.5	38	29	10	Practical cost-effectiveness procedures
21	8	14	13	Preservice preparation for emerging competency needs
28	4	15	11	Effective financing
32	11	22	5	Cooperation with related educational areas
34	20	26.5	32	Assistance for students with special problems
35	24.5	28	12	Adequate supply of qualified personnel

Table 9

PRIORITIES RELATED TO LEGISLATIVE EMPHASIS

PLANNING, EVALUATION, FOLLOW-UP, ACCOUNTABILITY:

2	Communication of benefits and content
4	More effective evaluation
8	Improved data for planning and evaluation
12	Tools and techniques for program planning, management, evaluation
24	Improved follow-up studies

COOPERATION WITH BUSINESS, INDUSTRY, AND LABOR:

1	Collaboration with employment community
10	Coordinate comprehensive guidance services with employment community

GUIDANCE AND COUNSELING:

6	Comprehensive guidance, counseling, placement, follow-up for all
10	Coordinate comprehensive guidance services with employment community

MORE QUALIFIED TEACHERS:

9	Adequate supply of qualified personnel
14	Preservice preparation for emerging competency needs

SPECIAL NEEDS GROUPS

5	Adults
11	Handicapped
18	Disadvantaged
23	Rural
37	Inner-city
39	Minority
42	Correctional inmates
43	Limited English-speaking ability
48	Migrant

SEX BIAS AND SEX STEREOTYPING

47	Equal opportunity enrollment

needs groups. Respondents in this study distinguished rather sharply between those whose needs derive from essentially uncontrollable physical conditions (adults, handicapped) and those whose needs are related to social, cultural, and economic conditions. The latter were assigned medium and low priorities, but adults and the handicapped were among the highest priorities.

Areas of Need

Correlations among the 48 needs were submitted to factor analysis as described earlier. Standard criteria indicated the presence of six or seven important factors in the solution. After comparing five-factor, six-factor, and seven-factor solutions, with both orthogonal and oblique rotations, the six-factor orthogonal (varimax) solution was identified as the most interpretable structure. However, little difference was found between orthogonal and oblique solutions. The six factors thus identified explain 81 percent of the estimated common variance and 44 percent of total variance. The final, orthogonally-rotated, factor matrix shown in the Appendi displays the six factor loadings and the communality for each need.

Each factor may be thought of as a fundamental consideration entering into many specific priority decisions and about which individual raters tend to assign priorities consistently, relative to each other. Thus, for example, rater A might tend to assign higher priority than rater B to all needs involving data-based decision-making. As a result, needs involving data-based decision-making would be correlated and define a cluster or area of needs whose priority ratings depend in part upon the same underlying factor. The following brief descriptions of the factors, each labeled to indicate the apparent character of the underlying consideration, also refer to the factor matrix in the Appendix.

Factor 1: Education for Groups with Special Needs. This factor is defined by seven of the nine special needs groups identified in the survey instrument. In addition, the need (38) for educational diagnostic and prescriptive systems and for training to work with special groups have appreciable loadings. This factor seems to concern the educational needs, as distinguished from guidance and special assistance needs, of groups whose special needs derive from or are defined by cultural, social, and economic conditions. The single clear exception to this interpretation among the needs with important loadings on this factor is the handicapped group (46) whose needs presumably arise from physical disabilities. It has one of the lower loadings and is the only need on this factor whose priority (rank 11) was among the highest third of all needs. All other needs on this factor were assigned priorities in the lowest

third except for the disadvantaged (47, medium priority rank 18) which seems ambiguous as to origins.

Factor 2: Comprehensive Guidance and Special Assistance. Whereas factor 1 emphasized educational needs and groups of learners, factor 2 is defined by a variety of needs for comprehensive, noninstructional, individualized assistance. The emphasis seems to be upon meeting the needs of individual students in organized ways, however specialized the need might be. The three needs (numbers 34, 37, 20) from this factor assigned high priorities (ranks 6, 10, 16 respectively) call for externally coordinated, comprehensive guidance, counseling, placement, and follow-up services and improved counselor education: a reasonable summary description of the factor. The other needs defining this factor appear to be specific aspects of the general need. They were assigned middle and lower level priorities. Apparently, the need in this area is greater for the comprehensive program than for individual portions.

Factor 3: Data-Based Decision-Making. The needs defining this factor describe a concern for improved information, tools, techniques, and methods for a variety of planning, management, and evaluation decisions. The three needs (numbers 7, 8, 9) with highest loadings on this factor and, also, need number 37, all were ranked among the highest priority third of all needs. The relatively large proportion of high priority needs from this factor, which is so closely related to accountability, is consistent with the "external" emphasis observed earlier in the list of highest priority needs overall.

Factor 4: Personnel Development. This factor is defined by a group of needs which concern a variety of professional personnel development, activity, and management goals. Highest loadings (and highest priorities) are attached to the ubiquitous needs for adequate numbers of qualified personnel prepared to meet emerging competency needs and for in-service opportunity for renewal and expansion of their competencies. The needs (numbers 14, 13) for in-service and preservice personnel development were the only two in the highest priority third of all needs (ranks 9 and 14 respectively). All others were assigned middle priority (needs 12, 17, 28) or low priority (needs 15, 16, 39). This division of priorities among personnel needs also seems consistent with the "external" emphasis seen in highest priority needs; the statements of in-service and preservice development needs emphasize renewal and expansion of competencies and preparation to meet emerging demands. Other needs on this factor seem more system oriented, being concerned largely with personnel management matters. It is interesting that raters held consistent priority opinions, relative to each other, about such diverse matters as preservice preparation, teachers in supporting activities, and methods for

personnel evaluation. Apparently, individuals tend to have rather general opinions about the need for improvement in personnel matters.

Factor 5: Design and Content of Instruction. The needs loading on this factor collectively describe a general concern for the instructional program: its content, efficiency, relevance to work requirements, and flexibility in response to the needs of individuals and in response to new ideas. Highest priority needs from this factor were those affecting students most directly: relevant curriculum content (numbers 23, 22, 24) individualized education (number 25), and flexible programs (number 27). The only three needs from this factor ranked in the lowest priority group overall (numbers 26, 1, 21) seem less directly involved in the processes of learning and teaching.

Factor 6: Community Interaction and Post-Completion Activity. The needs defining this factor are distinguished by their common external and after-standard-schooling orientation. Four needs (number 40, 37, 4, 34) of the seven with major loadings on this factor are among the 10 highest priority needs of all 48--another outcome which is consistent with the emphasis noted in the full list of highest priority needs.

Conclusions

Several general conclusions appear justified by the findings of this study.

1. There was substantial agreement among respondent groups with respect to the priorities of most of the needs studied. Highest priority was assigned to improvements in collaboration with key segments of the employment community, in communication of the benefits and content of vocational education, and in the relevance of vocational curricula to current job opportunities and practices.

2. Needs assigned high priorities by consensus of all groups have a striking "external" orientation. Many of them concern interaction with and response to the community at large and to the changing context of vocational education.

3. The major differences among groups concerning priorities were between those groups responsible for state-level management and those delivering local educational services. The differences in emphasis are consistent with the different working roles of the groups.

4. There was agreement in the field with many of the major emphases (priorities) which later appeared in the Education Amendments of 1976. However, respondents to this survey appear to have assigned lower priority to problems of equal enrollment opportunity, including sex stereotyping, than does the legislation. Respondents also assigned priorities differentially to special needs groups, giving highest priority to adults and the handicapped and much lower priorities to other groups.

5. Six fundamental considerations (factors) appear to underlie the many specific priority decisions rendered by these respondents. Two of these factors were defined by a larger than usual proportion of high priority needs: data-based decision-making, and community interaction.

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APPENDIX

Steering Committee Members
Survey Instrument
Factor Matrix

NATIONAL SURVEY OF VOCATIONAL EDUCATION NEEDS

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Survey No. _____

NATIONAL SURVEY OF VOCATIONAL EDUCATION NEEDS

PART 1. PRIORITY NEEDS:

INSTRUCTIONS: Inside this booklet are 40 statements of vocational education needs. These statements were developed from several thousand problems and goals nominated by vocational educators and from several hundred published recommendations of advisory groups, government sources, professional associations, and research and evaluation efforts.

Please, first read quickly through the list of needs. Then, rate the priority of each need for the vocational education programs with which you are concerned. Indicate your rating by circling the appropriate number beside each need. Be sure to rate all needs in the list.

EXAMPLE

	Priority of Need				
	Lower		Medium		Higher
Develop methods by which new ideas can be incorporated more rapidly in vocational education.	1	2	3	(4)	5

To assign some needs to each level of priority. Even though you may feel almost all are important, it is necessary to distinguish between higher and lower priority needs.

A need is an important difference between "what is" and "what ought to be." When rating the priority of a need, consider both the magnitude of the difference and the importance of reducing the difference for the vocational education programs with which you are concerned. Give higher ratings to needs which you personally feel: (1) urgently require resolution; or (2) affect many aspects of programs, larger numbers of learners, more than one level of education, several educational settings; or (3) affect the quality of programs; or (4) are durable and persistent.

Remember, rate the priority of each need for the vocational education programs with which you are concerned.

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	PRIORITY OF NEED				
	LOWER		MEDIUM		HIGHER
1. Incorporate new ideas more rapidly in vocational education.	1	2	3	4	5
2. Implement proven innovations when outside funds no longer are available.	1	2	3	4	5
3. Better communicate the benefits and content of vocational education to parents, students, employers, and general educators.	1	2	3	4	5
4. Increase collaboration with key segments of the employment community (e.g., business, industry, organized labor, government).	1	2	3	4	5
5. Increase cooperation with related educational areas (e.g., industrial arts, career education, pre-vocational education, academic subjects).	1	2	3	4	5
6. Increase cooperation among the various levels and departments of vocational education.	1	2	3	4	5
7. Provide improved data for planning and evaluating vocational programs.	1	2	3	4	5
8. Evaluate vocational education more effectively (e.g., impact, goal achievement, student outcomes, needs, cost-benefit).	1	2	3	4	5
9. Provide tools and techniques for improved planning, management, and evaluation of vocational education programs.	1	2	3	4	5
10. Develop practical procedures for measuring the relative cost-effectiveness of program alternatives.	1	2	3	4	5
11. Finance vocational education programs using local, state, and federal sources effectively.	1	2	3	4	5
12. Prepare an adequate supply of qualified vocational personnel for each leadership role.	1	2	3	4	5
13. Ensure that preservice preparation of vocational personnel meets present and emerging competency needs.	1	2	3	4	5
14. Improve opportunities for inservice vocational personnel to renew and expand their competencies.	1	2	3	4	5
15. Improve the methods for evaluation of vocational personnel.	1	2	3	4	5
16. Develop organizational and staffing patterns which optimize the effectiveness of personnel and resources.	1	2	3	4	5
17. Increase the participation of vocational teachers in supporting activities (e.g., curriculum development, community relations, job placement, follow-up, professional development).	1	2	3	4	5
18. Provide personnel to vocational program from specialized areas (e.g., job placement, special education, remedial basic skills, teaching aids, psychology, social work, nursing, staff development).	1	2	3	4	5
19. Identify and improve the special skills needed by vocational personnel to work with special groups (e.g., disadvantaged, bilingual, incarcerated, handicapped, minorities).	1	2	3	4	5
20. Improve counselor education programs.	1	2	3	4	5
21. Improve the effectiveness with which on-site agents (e.g., curriculum coordinators, supervisors, teachers) bring about the adoption of valid innovations.	1	2	3	4	5
22. Ensure the relevance of vocational curricula to current job opportunities and practices through effective methods for identifying, selecting, and updating content.	1	2	3	4	5
23. Develop curricula which prepare students for clusters of up-to-date occupations.	1	2	3	4	5
24. Provide opportunities for all vocational students to acquire the basic skills (e.g., reading, communication, math) required for coursework and jobs.	1	2	3	4	5
25. Individualize teaching and learning (e.g., teaching techniques, management practices, and curriculum) to meet the needs of different kinds of learners.	1	2	3	4	5
26. Ensure efficient learning of vocational curricula through systematic methods (e.g., sequencing, allocating time to, and evaluating affects of instruction).	1	2	3	4	5
27. Increase the flexibility of vocational programs (e.g., flexible scheduling, alternative instructional strategies, performance-based certification, open entry and exit).	1	2	3	4	5

Remember, rate the priority of each need for the vocational education programs with which you are concerned.

		PRIORITY OF NEED				
		LOWER		MEDIUM		HIGHER
28.	Improve the curriculum materials used by vocational students and educators.	1	2	3	4	5
29.	Enroll students into all vocational programs on an equal opportunity basis.	1	2	3	4	5
30.	Expand opportunities for all students to explore and practice job skills in both community and school settings.	1	2	3	4	5
31.	Develop alternative methods for assisting students in transition from school to work (e.g., job seeking skills , coping with work entry and adjustment, work habits, attitudes).	1	2	3	4	5
32.	Assist students with special problems (e.g., negative attitudes, absenteeism, dropout potential, financial need).	1	2	3	4	5
33.	Develop ways to reduce and cope with disruptive or dangerous activities (e.g., delinquency, vandalism, discipline problems).	1	2	3	4	5
34.	Provide comprehensive vocational guidance, counseling, placement, and follow-up services to all who need them.	1	2	3	4	5
35.	Place vocational students in occupations related to their education through coordinated efforts at all levels (classroom, school, district, state, federal).	1	2	3	4	5
36.	Improve and expand follow-up studies of former students and their employers.	1	2	3	4	5
37.	Coordinate comprehensive guidance, counseling, placement, and follow-up services with business, industry, service agencies, and manpower information systems.	1	2	3	4	5
38.	Develop a system for reliable identification of occupationally disadvantaged persons and for prescription of effective educational programs for them.	1	2	3	4	5
39.	Expand post-secondary vocational education through applied studies and development of materials, programs, and methods.	1	2	3	4	5
40.	Improve and expand vocational education to meet the needs of individuals who are: (Please, rate the priority for each group separately.)					
	a. adults	1	2	3	4	5
	b. inner-city residents	1	2	3	4	5
	c. in sparsely populated rural areas	1	2	3	4	5
	d. minority group members	1	2	3	4	5
	e. limited in English-speaking ability	1	2	3	4	5
	f. in correctional institutions	1	2	3	4	5
	g. handicapped	1	2	3	4	5
	h. disadvantaged	1	2	3	4	5
	i. migrant	1	2	3	4	5

ONCE YOU HAVE COMPLETED THE RATINGS: PLEASE, GO BACK AND CIRCLE THE ITEM NUMBERS OF THE 5 STATEMENTS WHICH, IN YOUR OPINION, MOST URGENTLY NEED ATTENTION.

EXAMPLE: (50.) Improve the training of . . .

ADD BELOW ANY NEEDS NOT STATED IN THE PREVIOUS LIST WHICH YOU FEEL SHOULD HAVE VERY HIGH PRIORITY.

_____

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GO ON TO THE NEXT PAGE

PART II: PROMISING IDEAS

INSTRUCTIONS: Vocational education must not only deal with present priority needs, but also must change, adjust, and invent new ways to meet the requirements of the future. Listed below are some ideas which have been tried in some places and are suggested as promising ways to meet such new requirements.

For each idea, please circle the letter which best describes your agreement with this statement: "This idea deserves prompt attention to benefit vocational education" (study, or development, or evaluation, or dissemination).

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. COMPUTER TECHNOLOGY. Apply computer technology to vocational education in ways which ensure timely, individualized responsiveness even when serving many learners (e.g., current occupational information banks accessible by students; computer assisted instruction and guidance; computer managed instruction; placement and follow-up systems).	SA	A	N	D	SD
2. COMMUNITY TALENT. Use individual talent from the community directly in all educational functions (e.g., instruction, guidance, policy development, planning, evaluation, research, placement, follow-up).	SA	A	N	D	SD
3. WORKSITE LEARNING. Use community work places rather than school buildings as the sites for regular, planned, guided, and credited learning of vocational capabilities.	SA	A	N	D	SD
4. LIFELONG ENTITLEMENT. Provide each individual with a useful amount of entitlement to education, beyond legal attendance requirements, which can be used at individuals' options throughout life to meet their needs.	SA	A	N	D	SD
5. PERFORMANCE LEARNING. Set the learning objectives and achievement measures of all vocational curricula in terms of essential performance capabilities; revise instruction, administration, credentialing, staff development, and all other supporting functions as necessary to serve the purposes of learning and demonstrating performance capabilities.	SA	A	N	D	SD
6. EXTERNAL EDUCATION. Allow credit and provide credentials to anyone upon proper demonstration by test of vocational capabilities, without regard to how the capabilities were acquired (e.g., military, on the job, private school, individual study, correspondence).	SA	A	N	D	SD

Add below any promising ideas not stated in the previous list which you feel should receive prompt attention to benefit vocational education.

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PART III: BACKGROUND

1. The title of my present position is _____

_____

2. I have been in this role for_____ years.

3. I have been associated with vocational education for_____years.

ORTHOGONALLY ROTATED FACTOR MATRIX

	Factor						
Need	1	2	3	4	5	6	Communalities
1	.177	.059	.155	.061	.418	.035	.239
2	.287	.045	.062	.175	.151	.011	.142
3	.061	.272	.075	.285	.062	.285	.250
4	.080	.203	-.025	.052	.111	.424	.243
5	.181	.272	-.077	.152	.039	.010	.137
6	.209	.213	.027	.265	.087	.009	.168
7	.182	.023	.689	.016	.126	.154	.548
8	.133	-.010	.680	.065	.116	.029	.499
9	.108	.062	.635	.101	.191	.073	.470
10	.112	.146	.585	.050	.052	-.070	.387
11	.112	.126	-.147	.259	.217	.290	.248
12	.041	.055	.090	.540	.134	.204	.364
13	.091	.082	.031	.540	.042	.015	.309
14	.015	.062	.099	.589	.124	.172	.406
15	.067	.029	.442	.405	.192	.024	.402
16	.081	.280	.266	.388	.160	-.066	.336
17	.059	.253	.030	.503	.107	.112	.346
18	.168	.523	.070	.232	.044	.004	.362
19	.344	.401	.210	.148	-.013	-.020	.34[illegible]
20	.141	.344	.142	.143	.060	.132	.200
21	.145	.241	.158	.180	.389	.041	.290
22	-.101	.202	.126	.107	.362	.155	.233
23	.087	.176	.027	.018	.505	-.056	.298
24	.163	.280	-.117	.173	.360	.146	.300
25.	.060	.085	.040	.133	.597	.101	.397
26	.122	-.058	.174	.287	.555	.086	.446
27	.178	.194	.097	.051	.420	.013	.258
28	.059	-.091	.047	.389	.370	.223	.351
29	.293	.463	.029	.034	.196	.103	.351
30	.022	.481	-.051	-.021	.159	.160	.286
31	.086	.517	.154	-.015	.165	.152	.349
32	.258	.506	.065	.095	.126	.052	.355
33	.272	.410	-.061	.269	.120	-.077	.339
34	.098	.479	.230	-.007	.087	.400	.459
35	.018	.345	.109	.191	.066	.288	.255
36	.040	.199	.467	.050	-.082	.404	.432
37	.121	.374	.367	-.057	-.043	.487	.531
38	.352	.422	.205	.061	.183	.165	.409
39	.068	.072	.029	.320	.280	.302	.282
40	.103	-.050	.074	.220	.087	.533	.359
41	.577	.071	.024	.165	.116	.002	.380
42	.168	.082	.058	.117	.023	.407	.218
43	.762	.198	.123	.035	.079	.105	.654
44	.762	.231	.177	-.033	-.008	.029	.668
45	.549	.173	.088	.016	.117	.143	.373
46	.514	.192	.133	-.062	.176	.194	.391
47	.619	.189	.143	.043	.178	.224	.523
48	.741	.071	.063	.173	.033	.120	.604
Variance	4.019	3.319	2.800	2.576	2.456	2.019	17.188
Percent Variance	23.383	19.308	16.291	14.986	14.287	11.745	100.000